

WHAT IS CLAIMED IS:

1           1. An apparatus for separating a digital broadcasting signal from data transmitted using an  
2 Internet network, comprising:

3           a transmission media for transmitting signals transmitted from a server providing a digital  
4 broadcasting service and an Internet provider server to a subscriber;

5           a set-top box for separating data received through the transmission media into digital  
6 broadcasting data and Internet data and outputting both data to corresponding units;

7           a television set for receiving the digital broadcasting data outputted from said set-top box  
8 separately and processing the data; and

9           a computer for receiving the Internet data outputted from said set-top box separately and  
10 processing the data,

11           with said set-top box comparing an Internet protocol address of a received Internet protocol  
12 packet with an broadcasting Internet protocol address assigned previously by a user, and processing  
13 the Internet protocol packet in a Moving Picture Experts Group-N transport stream processing unit  
14 when the Internet protocol packet is determined as the broadcasting Internet protocol address, and  
15 outputting the Internet protocol packet to said computer directly when the Internet protocol packet  
16 is determined not to be the broadcasting Internet protocol address assigned previously.

1           2. The apparatus according to claim 1, wherein said set-top box comprises:

2           a reception buffer for receiving the Internet protocol packet;

3 an Internet protocol header extractor for extracting an Internet protocol header from the  
4 Internet protocol packet outputted from said reception buffer;

5 a comparator for comparing the address of the Internet protocol header extracted from said  
6 Internet protocol header extractor with the Internet protocol address assigned previously by the user;

7 a register for storing the broadcasting Internet protocol address value set by the user;

8 an Internet protocol packet path processing unit for selecting an Internet protocol packet path  
9 according to a result value of the comparison outputted from said comparator;

10 a transmission buffer for transmitting the Internet protocol packet in order to return the  
11 Internet protocol packet from said Internet protocol packet path processing unit to the computer,  
12 when the result value of the comparison is determined to be the Internet protocol address  
13 corresponding to general Internet data; and

14 said Moving Picture Experts Group-N transport stream processing unit for processing the  
15 Internet protocol packet outputted from the Internet protocol packet path processing unit, when the  
16 result value of the comparison of the comparator is determined to be an Internet protocol address  
17 corresponding to a digital broadcasting signal.

1 3. The apparatus according to claim 2, wherein said comparator of said set-top box makes  
2 a use of an exclusive OR gate.

1 4. The apparatus according to claim 2, wherein said set-top box further includes a user  
2 datagram protocol filtering process unit for performing a port number filtering in order to identify

1 whether data is normally received without any data loss.

1 5. The apparatus according to claim 4, wherein said user datagram protocol filtering process  
2 unit comprises a user datagram protocol processing unit for separating a user datagram protocol  
3 header and data part;

4 an exclusive OR unit for comparing the user datagram protocol header with the filtered user  
5 datagram protocol header; and

6 a final processing unit for determining whether to discard the data or to output the data to a  
7 Moving Picture Experts Group-N transport stream processing unit according to an output value of  
8 said exclusive OR unit.

1 6. The apparatus according to claim 5, further comprised of the received Internet protocol  
2 packet being stored in said buffer through said transmission media.

1 7. The apparatus according to claim 6, with the broadcasting Internet protocol address being  
2 set in an Internet protocol lookup table.

1 8. A method for separating a digital broadcasting signal from data transmitted using an  
2 Internet network, comprising the steps of:

3 receiving an Internet Protocol packet by a buffer;

4 copying an Internet protocol header from the received Internet protocol packet and

1 extracting the Internet protocol header;

2 comparing an Internet protocol address of the extracted Internet protocol header with a  
3 broadcasting Internet protocol address assigned previously by a user;

4 outputting the Internet protocol packet to a Moving Picture Experts Group-N transport stream  
5 processing unit, when the extracted Internet protocol header is identical with the broadcasting  
6 Internet protocol address; and

7 outputting the Internet protocol packet to a computer, when the extracted Internet protocol  
8 header is not identical with a broadcasting Internet protocol address.

1 9. The method according to claim 8, further comprising the step of establishing at least one  
2 broadcasting Internet protocol address to be watched by the user before said step of receiving the  
3 Internet Protocol packet by the buffer is performed.

1 10. The method according to claim 8, wherein said step of outputting the Internet protocol  
2 packet to said computer further comprises the step of outputting the Internet protocol packet to the  
3 computer through a transmission buffer, when the Internet protocol address of the extracted Internet  
4 protocol header is not identical with the broadcasting Internet protocol address.

1 11. The method according to claim 8, wherein said step of outputting said Internet protocol  
2 packet to a Moving Picture Experts Group-N transport stream processing unit further comprises the  
3 step of filtering a user datagram protocol.

12. The method according to claim 11, wherein said step of filtering a user datagram protocol comprises the steps of:

receiving an Internet protocol packet from which an Internet protocol header is removed;

separating a user datagram protocol header and data of the packet;

comparing a port number recorded on the user datagram protocol header with a port number assigned previously by the user;

outputting the data to the Moving Picture Experts Group-N transport stream processing unit, when the port number recorded on the user datagram protocol header is identical with the port number assigned previously, as it is determined that the data is received normally; and

performing a discard processing, when the port number recorded on the user datagram protocol header is not identical with the port number assigned previously, as it is determined that the data is received abnormally, said discard processing discarding data.

13. The method according to claim 12, further comprising of storing the received Internet protocol packet in said buffer through a transmission media.

14. The method according to claim 13, with the broadcasting Internet protocol address being set in an Internet protocol lookup table.

15. The method according to claim 14, further comprising of performing a user datagram

2 protocol filtering procedure before performing said step of outputting the Internet protocol packet  
3 to said Moving Picture Experts Group-N transport stream processing unit.

1 16. An apparatus, comprising:

2 a first unit transmitting signals transmitted from a server providing a digital broadcasting  
3 service and an Internet provider server to a subscriber;

4 a second unit separating data received through said first unit into digital broadcasting data  
5 and Internet data and outputting both data to corresponding units;

6 a third unit receiving the digital broadcasting data outputted from said second unit separately  
7 and processing the data; and

8 a fourth unit receiving the Internet data outputted from said second unit separately and  
9 processing the data,

10 with said second unit comparing an Internet protocol address of a received Internet protocol  
11 packet with an broadcasting Internet protocol address assigned previously, and processing the  
12 Internet protocol packet in a Moving Picture Experts Group-N transport stream processing unit when  
13 the Internet protocol packet is determined as the broadcasting Internet protocol address, and  
14 outputting the Internet protocol packet to said fourth unit directly when the Internet protocol packet  
15 is determined not to be the broadcasting Internet protocol address assigned previously.

1 17. The apparatus of claim 16, with said broadcasting Internet protocol address assigned  
2 previously by a user.

1           18. The apparatus according to claim 16, wherein said second unit comprises:  
2           a fifth unit receiving and storing the Internet protocol packet;  
3           an sixth unit extracting an Internet protocol header from the Internet protocol packet  
4           outputted from said fifth unit;  
5           a seventh unit comparing the Internet protocol header directly from the extraction from said  
6           sixth unit with the Internet protocol address assigned previously;  
7           an eighth unit storing the broadcasting Internet protocol address value set by the user;  
8           a ninth unit selecting an Internet protocol packet path according to a result value of the  
9           comparison outputted from said seventh unit; and  
10          a tenth unit transmitting the Internet protocol packet in order to return the Internet protocol  
11          packet from said Internet protocol packet path processing unit to said fourth unit, when the result  
12          value of the comparison is determined to be the Internet protocol address corresponding to general  
13          Internet data.

1           19. The apparatus according to claim 18, wherein said second unit comprises said Moving  
2           Picture Experts Group-N transport stream processing unit for processing the Internet protocol packet  
3           outputted from the Internet protocol packet path processing unit, when the result value of the  
4           comparison of the comparator is determined to be an Internet protocol address corresponding to a  
5           digital broadcasting signal.

1           20. The apparatus according to claim 19, wherein said seventh unit includes an exclusive OR  
2     gate.

1           21. The apparatus according to claim 20, wherein said second unit further comprises a user  
2     datagram protocol filtering process unit for performing a port number filtering in order to identify  
3     whether data is normally received without any data loss.

1           22. The apparatus according to claim 21, wherein said user datagram protocol filtering  
2     process unit comprises a user datagram protocol processing unit for separating a user datagram  
3     protocol header and data part.

1           23. The apparatus according to claim 22, wherein said user datagram protocol filtering  
2     process unit further comprises an exclusive OR unit for comparing the user datagram protocol  
3     header with the filtered user datagram protocol header.

1           24. The apparatus according to claim 23, wherein said user datagram protocol filtering  
2     process unit further comprises a final processing unit for determining whether to discard the data or  
3     to output the data to said Moving Picture Experts Group-N transport stream processing unit  
4     according to an output value of said exclusive OR unit.

1           25. A computer-readable medium having computer-executable instructions for performing



a method, comprising:

receiving an Internet Protocol packet;

copying an Internet protocol header from the received Internet protocol packet and  
extracting the Internet protocol header;

comparing an Internet protocol address of the extracted Internet protocol header with a  
broadcasting Internet protocol address assigned previously by a user;

outputting the Internet protocol packet to a Moving Picture Experts Group-N transport stream  
processing unit, when the extracted Internet protocol header is identical with the broadcasting  
Internet protocol address;

outputting the Internet protocol packet to a computer, when the extracted Internet protocol  
header is not identical with a broadcasting Internet protocol address; and

establishing at least one broadcasting Internet protocol address to be watched by the user  
before said step of receiving the Internet Protocol packet by the buffer is performed.

26. The computer-readable medium having computer-executable instructions for performing  
a method of claim 25, wherein:

said step of outputting the Internet protocol packet to said computer further comprises the  
step of outputting the Internet protocol packet to the computer through a transmission buffer, when  
the Internet protocol address of the extracted Internet protocol header is not identical with the  
broadcasting Internet protocol address;

said step of outputting said Internet protocol packet to a Moving Picture Experts Group-N

transport stream processing unit further comprises the step of filtering a user datagram protocol; and

said step of filtering a user datagram protocol comprises the steps of:

receiving an Internet protocol packet from which an Internet protocol header is removed;

separating a user datagram protocol header and data of the packet;

comparing a port number recorded on the user datagram protocol header with a port number assigned previously by the user;

outputting the data to the Moving Picture Experts Group-N transport stream processing unit, when the port number recorded on the user datagram protocol header is identical with the port number assigned previously, as it is determined that the data is received normally; and

performing a discard processing, when the port number recorded on the user datagram protocol header is not identical with the port number assigned previously, as it is determined that the data is received abnormally, said discard processing discarding data.

27. A computer-readable medium having stored thereon a data structure comprising:

a first field containing data representing copying an Internet protocol header from a received Internet protocol packet and extracting the Internet protocol header;

a second field containing data representing comparing an Internet protocol address of the extracted Internet protocol header with a broadcasting Internet protocol address assigned previously by a user;

a third field containing data representing outputting the Internet protocol packet to a Moving

8 Picture Experts Group-N transport stream processing unit, when the extracted Internet protocol  
9 header is identical with the broadcasting Internet protocol address; and  
10 a fourth field containing data representing outputting the Internet protocol packet to a  
11 computer, when the extracted Internet protocol header is not identical with a broadcasting Internet  
12 protocol address.